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**NATIONAL OCEANIC and  
ATMOSPHERIC  
ADMINISTRATION  
Environmental Manual**

NOAA		Section 17
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## 17 TRAINING

### **Synopsis**

This section is promulgated to ensure that all NOAA facilities and work sites establish and implement training programs required under environmental programs.

It summarizes each applicable law and details the employee training required by the regulations promulgated under the authority of the law.

The section applies to all NOAA facilities and work sites.

### **Initial Implementation Requirements:**

- **Compare Site/Facility Operations with the Requirements of this Section**
  - Determine which environmental programs affect operation of the facility or workstation (17.6)
  - Determine the training required (17.6)
  - Provide the required training (17.6.1 through 17.6.15)

### **Recurring and Annual Task Requirements:**

- **Provide Refresher Training as Required.**



**17 TRAINING**

**17.1 Purpose and Scope**

This section is promulgated to ensure that the employee training required under numerous environmental programs is established and implemented at all NOAA facilities and work sites.

**17.2 Definitions**

Asbestos-Containing Material - any material that contains more than 1% asbestos.

Hazmat Employee - a person who “in the course of employment, affects hazardous materials safety.”

**17.3 Acronyms Employed in This Section**

CDL	-	Commercial Driver’s License
CESQG	-	Conditionally Exempt Small Quantity Generator
DOT	-	Department of Transportation
DRO	-	Designated Responsible Official
EPA	-	Environmental Protection Agency
HAZMAT	-	Hazardous Material
HAZWOPER	-	Hazardous Waste Operations and Emergency Response
LQG	-	Large Quantity Generator
MAP	-	Model Accreditation Plan
NOAA	-	National Oceanic & Atmospheric Administration
NPDES	-	National Pollution Discharge Elimination System
NWS	-	National Weather Service
OSHA	-	Occupational Safety and Health Agency
RCRA	-	Resource Conservation and Recovery Act
RECO	-	Regional Environmental Compliance Officer
SPCC	-	Spill Prevention Control & Countermeasures Plan
SQG	-	Small Quantity Generator

**17.4 Regulatory Requirements**

17.4.1 Federal

Employee training for environmental programs are mandated by the Environmental Protection Agency (EPA) as well as the Occupational Safety and Health Administration (OSHA) and the Department of Transportation (DOT). Each agency has a different reason for requiring training and as a result, a training

program designed to comply with the requirements for a particular EPA program will usually include training requirements from OSHA and the DOT.

The Federal laws which authorize these agencies to require this training include:

a. Federal Insecticide, Fungicide and Rodenticide Act of 1947

Under this law, the EPA requires applicators be trained and certified in the proper storage, use and disposal of pesticides. While this training is usually only required for commercial applicators, some States require it for applicators of over-the-counter products.

b. Occupational Safety and Health Act of 1970

This law empowers the Occupational Safety and Health Administration (OSHA) to require training for employees when managing and working with hazardous chemicals. As a result, OSHA has a number of requirements for training. These include training programs that involve large numbers of employees like the Hazard Communication Standard and the storage of flammable liquids as well as those that are limited in scope such as asbestos worker, lead-base paint worker training or confined space entry.

c. Clean Water Act of 1972

The Clean Water Act of 1972 and its amendments in 1977 and 1987 empowered the EPA to create a National Pollutant Discharge Elimination System Program to protect the nation's water. Under this program, the EPA required the use of Spill Prevention Control and Countermeasures (SPCC) plans to prevent and contain releases of petroleum products from storage tanks. The SPCC Plans rely on employee training to ensure the structures and programs described in the SPCC Plan are operational.

In addition, because the NPDES Program requires permits be obtained for the discharge of water, additional training may be specified as part of a discharge permit.

d. Clean Air Act of 1990

The Clean Air Act of 1990 authorized the EPA to create a regulatory program that includes training for and certification of all employees who repair refrigeration systems that contain chlorofluorocarbons (CFCs) as well as those who remove asbestos or asbestos-containing material (ACM). The EPA also requires training for employees who perform maintenance and repair of petroleum tank venting systems.

e. Hazardous Materials Transportation Uniform Safety Act of 1990

The Hazardous Materials Transportation Uniform Safety Act of 1990 empowered the DOT to require training for all employees who affect the safety of a hazardous material while in transport. By definition, anyone who packages, labels, marks or even signs a shipping paper is a DOT HAZMAT employee and must be trained.

f. Toxic Substance Control Act of 1976

The Toxic Substance Control Act of 1976 empowered the EPA to implement the Model Accreditation Plan (MAP) which set minimum training standards for personnel engaged in asbestos abatement. The EPA has also used this law to authorize required training for workers who remove lead-based paint.

g. Resource Conservation and Recovery Act of 1976

The Resource Conservation and Recovery Act of 1976 authorized the EPA to create the National hazardous waste management program which included requirements for training all employees who generate, store, dispose or otherwise manage hazardous waste.

h. Hazardous and Solid Waste Amendments of 1984

The Hazardous and Solid Waste Amendments of 1984 required the EPA to establish a program to address underground storage tanks. As part of this program, the EPA required the training of employees in the use and maintenance of underground storage tanks and their protective systems.

i. Superfund Amendments and Reauthorization Act of 1986

The Superfund Amendments and Reauthorization Act of 1986 required OSHA to address the topic of worker safety at superfund sites. As a result of this legislation, OSHA created the Hazardous Waste Operations and Emergency Response (HAZWOPER) program which includes specific training requirements for employees who respond to spills of hazardous materials.

#### 17.4.2 State and Local

Because the States have been authorized by the EPA to manage many of these Federal Environmental Programs within their borders, State environmental regulations must be consulted to determine the requirements for a specific NOAA

facility or work site. The NOAA RECO should be consulted to determine if State or local rules are applicable.

Also, because many States have created programs which augment and/or replace OSHA programs, the State worker safety regulations must also be consulted.

This is not the case in the area of hazardous materials transportation. Because the States are discouraged by Congress from creating separate rules for the transportation of hazardous materials, the US DOT requirements are universally applied throughout the US and thus the DOT regulations for training of HAZMAT employees are the only requirements for this area.

## **17.5 NOAA DRO TRAINING PROGRAMS**

NAO216-17 designates the senior NOAA official on-site as the Designated Responsible Official (DRO) and assigns this individual the responsibility for environmental and worker safety compliance.

To assist the DROs in understanding what they are responsible for, NOAA has developed and periodically offers a 4-hour course entitled, the “DRO Awareness Course.” This course provides an overview of the environmental and health and safety laws and regulations and discusses their impact on NOAA facilities.

All NOAA Designated Responsible Officials should attempt to attend this training when offered.

## **17.6 NOAA TRAINING PROGRAMS**

Based on their operations and the applicable laws and regulations, NOAA facilities and work sites are required to create and implement employee training programs for the following activities if applicable:

- a. hazardous waste generation
- b. spill prevention control and countermeasures plan (SPCC Plan)
- c. lead paint removal
- d. lead paint in NOAA housing
- e. asbestos removal
- f. maintenance of air conditioning
- g. application of pesticides
- h. use of hazardous chemicals (HAZCOM Standard)
- i. storage of flammable materials
- j. response to spills of hazardous materials (HAZWOPER Standard)
- k. use of personal protective equipment
- l. use of an underground storage tank

- m. inspection, testing and operation of aboveground storage tanks
- n. confined space
- o. DOT Hazardous Material employee

In addition, should a NOAA facility or work site be granted a permit for air emissions or the discharge of water, there may be additional training required as a permit condition.

#### 17.6.1 Training Required for Hazardous Waste Generators

Employees at NOAA facilities or work sites that generate and store (or accumulate) hazardous waste are required to be trained if they are involved in the generation accumulation, packaging, labeling or transportation of the waste off-site. The amount and type of training required is in large part determined by the amount of hazardous waste generated at the site and what is done with it.

The EPA defines four types of hazardous waste generators and each has different training requirements.

- ▶ A generator (commonly referred to as a large quantity generator or LQG) produces more than 1,000 kilograms per calendar month
- ▶ A small quantity generator (SQG) produces less than 1,000 kilograms, but more than 100 kilograms
- ▶ A conditionally-exempt small quantity generator (CESQG) produces less than 100 kilograms per month.
- ▶ A generator that only accumulates universal wastes to be recycled.

**Note:** The determination of the quantity of hazardous waste generated is based on location not organization. If a NOAA facility or work site that generates less than 100 kilograms per month of hazardous waste but it is co-located with other agencies on a site where the aggregate of all the hazardous waste generated exceeds the 1,000 kilogram level, the NOAA facility or work site is a large quantity generator.

#### a. The More Than 1,000 kg/mo Generator Training Requirements or LQG

Currently, the EPA regulations require a formal, written program which is designed to ensure that all facility personnel involved in hazardous waste management are taught to perform their jobs so as to ensure compliance with the hazardous waste regulations. This means employees must be taught why a waste is considered “hazardous” and how to handle, label, mark and store it properly as they do their work. The training may be administered in a classroom or on-the-job.

The training program must be directed by a “person trained in hazardous waste management procedures.” The material for instruction must include those job-specific procedures that each individual needs to perform their job including their role in the implementation of the hazardous waste contingency plan.

(1) Minimum Requirements

The EPA requires each employee who handles a hazardous waste be trained to properly manage that hazardous waste as they perform their job. In addition, the EPA and OSHA require the employees be taught how to prepare for and respond to an emergency involving hazardous wastes. At a minimum, this training will involve a review of the pertinent sections of the facility/work site Emergency Action Plan developed in accordance with the NOAA Occupational Safety and Health Manual. It must also include repair and replacement of equipment needed during an emergency as well as immediate response procedures such as emergency reporting procedures, use of the alarm/communication system and employee evacuation procedures.

(2) Compliance Dates

The training must be provided within 6-months of hire or promotion or transfer.

(3) Retraining and Recordkeeping

(a) Retraining Required: annual refresher of initial training

(b) Records: the program must consist of several written records: a job title, a job description, the amount and type of training required and documentation that the training was provided.

(i) **Job Title** - While the job titles can be those already used by an organization and/or incorporated into a collective bargaining agreement, they do not have to be. In fact, it is better if these titles only refer to a person’s specific hazardous waste duties and not to any of their other duties. For example, the hazardous waste job title “Satellite Accumulation Operator” could be given to an employee who is in charge of the satellite accumulation areas but who holds another title, that describes their primary duties, such as the Electronics Technician or Data Acquisition Program Manager. While each of these individuals have different

primary duties, for the purposes of the hazardous waste training program job titles, they would be identical.

- (ii) **Job Description** - For each hazardous waste job title, a description of what is required of that individual must be prepared. Remember, only one job description is needed for each job title. The description must include the duties or responsibilities for that title and the qualifications needed to properly fulfill those responsibilities.
- (iii) **Training Needed** - Based on the job description, a document must be prepared which describes the type and amount of training required to ensure they can perform their duties as detailed in the job description. These records must include the training required initially upon job assignment as well as that necessary for the annual refresher.
- (iv) **Training Records** - The records documenting the fact that training was completed must be kept for 3-years after an employee leaves or is transferred.

(4) Regulatory Citation

40 CFR 262.34 which references 40 CFR 265.16  
29 CFR 1910.120(p)(8)(iii).

b. Small Quantity Generator Training

- (1) Generators who produce more than 100 kilograms but less than 1,000 kilograms of hazardous waste in a calendar month are required to provide training to “ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.”

This training must include:

- (a) identification of hazardous wastes generated at the facility
- (b) techniques for packaging, marking, labeling
- (c) accumulation (storage) procedures
- (d) emergency response procedures involving the waste

- (e) internal notification or recordkeeping procedures which allow accountability of the waste.

- (2) Compliance Dates

The EPA does not specify how long this training should take nor when it must be provided. Best management practices, however, would suggest this training be provided before an employee handles a hazardous waste.

- (3) Retraining

The EPA does not require retraining, but a review every two years at a minimum is suggested.

- c. Conditionally-Exempt Small Quantity Generator Training Requirements

- (1) Requirements

For generators who produce less than 100 kg per month of hazardous waste, the EPA has no specific training requirements, however, “best management practices” require employees are provided training in:

- (a) how to manage any hazardous waste they generate, transport or store
- (b) how to respond to emergencies involving the hazardous waste.

- (2) Compliance Dates

The EPA does not specify how long this training should take nor when it must be provided. Best management practices, however, would suggest this training be provided before an employee handles a hazardous waste.

- (3) Retraining

The EPA does not require retraining but a review every two years at a minimum is suggested.

- d. A Small Quantity Universal Waste Handler

Generators of hazardous waste that meet the requirements for universal wastes if recycled are also required to provide training for their employees. The list of universal wastes currently includes:

- (1) batteries
- (2) pesticides
- (3) mercury-containing thermostats
- (4) lamps including fluorescent bulbs.

If a NOAA facility or work site only generates universal wastes and accumulates a total of less than 5,000 kilograms (11,000 pounds) of these wastes prior to transport to a recycling facility, the facility is a “small quantity handler” (SQH) of universal waste and thus, the NOAA employees who manage or store these wastes must receive training on the proper handling of the wastes and the appropriate emergency procedures to be used in the event of breakage, leak, fire or other emergency situation.

#### 17.6.2 Training Required by the Spill Prevention, Control and Countermeasures Plan

##### a. Training Requirements

If a NOAA facility is required to have a Spill Prevention, Control and Countermeasures (SPCC) Plan, the EPA requires the presentation of a personnel training program to ensure facility personnel understand the operation and maintenance of the equipment described in the SPCC Plan to ensure discharges of oil are prevented and should a spill occur, the personnel know what to do.

Because petroleum products are considered a Department of Transportation (DOT) hazardous material, employees who respond to releases of these materials may also be required to receive training in accord with the OSHA HAZCOM Standard in 29 CFR 1910.1200 (see Section 17.6.8) and the OSHA HAZWOPER Standards in 29 CFR 1910.120(q) (see Section 17.6.10).

##### b. Retraining

The SPCC training must be repeated or updated at “intervals frequent enough to ensure adequate understanding of the SPCC Plan for the facility.”

##### c. Regulatory Citations

40 CFR 112.7(f).

#### 17.6.3 Training Required by the Lead Worker Protection Program

The training for workers who work with or remove lead-based paint is regulated by both OSHA and EPA under separate programs.

a. OSHA Lead Worker Requirements

- (1) OSHA requires every worker who is exposed to an airborne concentration of lead of 30 ug/m<sup>3</sup> or higher to be trained in the following:
  - (a) the requirements of the OSHA requirements for lead workers in 29 CFR 1926.62
  - (b) the specific ways overexposure to lead could occur
  - (c) the purpose, use, selection and limitations of respirators
  - (d) the purpose of the medical surveillance and medical removal programs
  - (e) the engineering controls and work practices to be used
  - (f) the contents of any contingency plan that is in effect
  - (g) instructions about the use of chelating agents
  - (h) the employee's right of access to records.
- (2) Retraining  
OSHA requires annual retraining of the employees.
- (3) Regulatory Citation  
29 CFR 1926.62(1)(2).

b. EPA Lead Worker Requirements

- (1) The EPA has divided lead worker training into five categories or disciplines: inspector, risk assessor, supervisor, project designer and abatement worker. Further, the EPA requires all lead worker programs to be certified by the EPA. No individuals or firms are allowed to provide, offer or even claim to provide lead-based paint activities, training or refresher training without being accredited by the EPA according to the requirements in 40 CFR 745.225.

(2) Retraining

The EPA requires an annual refresher course for each discipline of at least 8-hours except for the project designer who must receive at least 4-hours of refresher training. Like the basic training, the refresher training can only be provided by a firm or individual accredited by the EPA.

(3) Regulatory Citation

40 CFR 745 Parts 220-239.

17.6.4 Lead-Based Paint (LBP) in Housing

- a. For NOAA employees and their families who live in NOAA-provided housing that was found to contain lead-based paint, the NOAA facility or work site Lead-Based Paint Program Manager (i.e., the Designated Person) must provide the tenants with information detailing the known lead-based paint hazards and a pamphlet developed by the EPA, HUD and the Consumer Product Safety Commission (CPSC) titled, "Protect Your Family From Lead in Your Home."

**Note:** The sample disclosure forms and the pamphlet, "Protect Your Family From Lead in Your Home" can be obtained by calling the National Lead Information Clearinghouse (NLIC) at (800) 424-LEAD (800-424-5323). A request may also be made by FAX to (202) 659-1192 or by e-mail to [ehc@cais.com](mailto:ehc@cais.com).

- b. Retraining

There is a one-time notification to each resident.

- c. Regulatory Citation

40 CFR Part 745.107.

17.6.5 Asbestos Training

- a. General Requirements

OSHA requires asbestos training for all employees who either work with asbestos-containing materials or because of where they work could be exposed to a concentration of asbestos in excess of the permissible exposure limit (PEL) of 1.0 fiber per cubic centimeter in air work. This training must

be completed prior to or at the time of initial exposure and the NOAA must provide written materials at no cost to the employee.

OSHA divides the types of work with asbestos into four (4) classes and requires training appropriate to each class of work. The four (4) OSHA classes are:

- (1) ***Class I asbestos work*** means activities involving the removal of thermal system insulation (TSI) and encapsulating asbestos-containing material (ACM) or potentially asbestos-containing material (PACM).
- (2) ***Class II asbestos work*** means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles and construction mastics.
- (3) ***Class III asbestos work*** means repair and maintenance operations where ACM, including TSI and surfacing ACM and PACM is likely to be disturbed.
- (4) ***Class IV asbestos work*** means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to cleanup dust, waste and debris resulting from Class I, II and III activities.

b. Class I Worker Training

For workers involved in Class I operations and Class II operations that require the use of critical barriers (i.e. sealing the area to prevent asbestos fibers from leaving the immediate work area) or negative pressure enclosures (i.e. air is drawn into the work area ), OSHA requires workers be provided training equivalent to the EPA-certified Asbestos Worker Course designed in accordance with 40 CFR 763, Appendix C.

For NOAA operations, this means sending personnel to a school or vendor certified by the EPA to provide the Asbestos Worker Course.

c. Class II Worker Training

For workers involved in Class II operations that require neither the critical barriers nor negative pressure enclosures, OSHA requires they receive the Basic Asbestos Safety Course required to be provided to Class IV workers plus:

- (1) specific work practices and engineering controls which specifically relate to the category of material being removed
- (2) “hands-on” training in the applicable work practices the employee will be required to use for each type of material to be removed.

d. Class III Worker Training

For Class III workers, OSHA refers to asbestos training required by the EPA for custodial workers at schools that contain asbestos or asbestos-containing materials (ACM) as specified in 40 CFR 763.92(a)(2). This training includes:

- (1) information about asbestos, its uses and various forms
- (2) information about the health effects from asbestos exposure
- (3) locations where asbestos has been identified in the facility
- (4) recognition of damage, deterioration and delamination of ACM
- (5) name and telephone number of person responsible for asbestos management program.

While the EPA requires this training be at least 2-hours in length, OSHA requires “hands-on” training be added and that it take at least 16-hours.

The OSHA regulations include a proviso that if the competent person determines that the EPA training is not adequate, the training for Class III workers can be modified to include:

- (1) the basic asbestos safety course provided Class IV workers
- (2) specific work practices and engineering controls used on the job
- (3) the purpose, use, fitting and limitations of respirators
- (4) the appropriate work practices
- (5) medical surveillance program
- (6) the OSHA rules
- (7) the names, addresses and phone numbers of public health organizations which provide information or conduct programs to stop smoking

- (8) the requirements for posting of signs and affixing labels and what they mean.
- (9) hands-on training in the applicable work practices.

e. Class IV Worker Training

Class IV workers are required to receive a basic asbestos safety training course which includes:

- (1) the differences in the types of training required by OSHA
- (2) the methods of recognizing asbestos including the OSHA requirement that untested, but presumed asbestos-containing material, was to be handled as ACM
- (3) the health effects of asbestos exposure
- (4) the relationship of smoking and asbestos in producing lung cancer
- (5) the nature of operations that could result in asbestos exposure and the importance of protective controls including:
  - a. engineering controls
  - b. work practices
  - c. respirators
  - d. housekeeping procedures
  - e. hygiene facilities
  - f. protective clothing
  - g. decontamination procedures
  - h. emergency procedures
  - i. waste disposal procedures

(6) Retraining

Asbestos worker training is required to be provided annually.

(7) Regulatory Citation

For OSHA Requirements: 29 CFR 1926.1101(k)(9)  
For EPA Requirements: 40 CFR 763.92(a)(2).

### 17.6.6 Air Conditioner Maintenance

- a. NOAA employees who maintain, service or repair refrigerators, freezers, air conditioners, heat pumps, dehumidifiers, water coolers and other appliances that use refrigerant must be certified by the EPA. Depending on what the employee repairs, the certification and requirements vary.

Type I - Technician - maintains, repairs or services small appliances

Type II - Technician - maintains, repairs or services high pressure appliances, motor vehicles or motor vehicle-like appliances

Type III - Technician - maintains, services, repairs or disposes of low pressure appliances.

A Universal Technician maintains or services both high and low pressure systems.

To be certified, a technician must take and pass a test provided by the EPA for the appropriate type of technician. To take the test, the Regional EPA office must be contacted and arrangements made.

The training to obtain the certification is “hands-on” training. While an employee is undergoing training, the employee is deemed an “apprentice.” Apprentices are allowed to work on appliances as long as they are “closely and continually supervised by a certified technician while performing any maintenance, service, repair or disposal that could reasonably be expected to release refrigerant from the appliances to the environment.” Once the apprentice is trained, contact with the EPA Regional Office must be made to arrange for the certification testing.

- b. Retraining

The EPA does not require retraining, but does allow the EPA Administrator to require recertification by placing a notice in the Federal Register.

- c. Regulatory Citation

40 CFR Part 82.40 and 40 CFR Part 82.161.

### 17.6.7 Pesticide Applicator Training

EPA regulations require pesticide applicators to be certified as competent to apply restricted use pesticides in accordance with national standards. The actual certification of applicators, however, is done by the States, Territories and Tribes in accordance with these standards. The training covers safe pesticide use as well as environmental issues such as endangered species and water quality protection.

The EPA regulations classify applicators as either private or commercial and then promulgates separate standards for each.

A ***private applicator*** uses or supervises the use of restricted use pesticides for the purpose of producing an agricultural commodity. This activity may occur on property owned or rented by the applicator or the applicator's employer, or, if applied without compensation other than the trading of personal services between products of agricultural commodities, on the property of another person.

A ***commercial applicator*** uses or supervises the use of restricted use pesticides for any purpose or on any property not covered by private applicators.

Because State, Territory or Tribal rules may modify these definitions, NOAA facilities need to check with the NOAA RECO to determine the applicable state rules.

Under the EPA guidelines, commercial applicators must demonstrate practical knowledge of the principles and practices of pest control and the safe use of pesticides. Competence must be determined by a written exam and, as appropriate, performance testing in the following areas:

- a. Label and labeling comprehension
- b. Safety
- c. Environment
- d. Pests
- e. Pesticides
- f. Equipment
- g. Application technique
- h. Laws and regulations.

In addition, tests are given on the particular category of the applicator's certification.

The EPA recognizes 10 categories of commercial applicators, however, States, Tribes or Territories may delete a category not needed, request Administrator's

approval of additional major categories or designate subcategories within these 10 categories, as needed.

- (1) Agricultural pest control
  - (a) Plant
  - (b) Animal
- (2) Forest pest control
- (3) Ornamental & turf pest control
- (4) Seed treatment
- (5) Aquatic pest control
- (6) Right-of-Way pest control
- (7) Industrial, institutional, structural and health-related pest control
- (8) Public health pest control
- (9) Regulatory pest control
- (10) Demonstration and research pest control

To determine the training required and the certification process, the NOAA Facility/Work Site Program Coordinator will need to contact the State, Territory or Tribe. To assist in this process, check the EPA website of State contacts at <http://www.epa.gov/pesticides/safety/applicators/statepro.htm>.

#### 17.6.8 Using Hazardous Chemicals

##### a. Requirements

All NOAA personnel who use, manage or store OSHA-defined hazardous chemicals are required to be trained under the Hazard Communication (HAZCOM) Standard. For NOAA Laboratories, this program is referred to as the “Chemical Hygiene Plan.” Procedure 7 in the NOAA Occupational Health and Safety Manual details the requirements for both programs and provides a series of templates to assist in their implementation.

Under the OSHA HAZCOM Standard rules, personnel who work with a hazardous chemical must take training which explains:

- (1) the existence of the HAZCOM Standard and what it requires.
- (2) what are the hazardous chemicals in the workplace and why they are considered hazardous.
- (3) the role of the Material Safety Data Sheet (MSDS) and where they are located.
- (4) how an employee would obtain a material safety data sheet (MSDS).

The employee training plan shall also include an explanation of:

- (1) methods and observations workers can use to detect the presence or release of a hazardous chemical in the work area (i.e. visual appearance or odor).
- (2) the physical and health hazards of the chemicals in the workplace.
- (3) measures employees can take to protect themselves from hazards, including the specific work practices and use of personal protective equipment provided by the employer.
- (4) how the Hazard Communication Program is implemented in the workplace, how to read and interpret information on labels and MSDSs and how employees can obtain and use the available hazard information.

Similarly, under the requirements for the Chemical Hygiene Plan, Laboratories must provide each employee information which informs employees of:

- (1) the contents of the standard and its appendices,
- (2) the location and availability of the Chemical Hygiene Plan,
- (3) the permissible exposure limits for OSHA-regulated substances or the recommended exposure limits for other hazardous chemicals where there is no OSHA Standard,
- (4) signs and symptoms associated with exposures to hazardous chemicals used in the laboratory, and
- (5) the location and availability of known reference material on the hazards, safe handling, storage and disposal of the hazardous chemicals found in the laboratory. These references must include the Material Safety Data Sheets.

The OSHA Chemical Hygiene Plan Standard also requires the laboratory employees receive training which includes:

- (1) methods and observations that may be used to detect the presence or release of a hazardous chemical,
- (2) the physical and health hazards of the chemicals in the work area,
- (3) the measures employees can take to protect themselves, including specific procedures provided by NOAA like work practices, emergency procedures, and personal protective equipment used to protect the employees.

For those NOAA operations whose work operations involve situations where employees have only a potential to be exposed to hazardous substances (i.e. the handling of containers not intended to be opened under normal conditions), a limited set of requirements must be met.

For NOAA employees who only handle sealed containers, for example, in a warehouse facility, the training program must ensure employees are provided with information and training to the extent necessary to protect them in the event of a spill or leak from a sealed container.

b. Retraining

Retraining under the HAZCOM Standard is generally not required unless new chemicals, procedures or hazards are introduced into the workplace or, employee actions demonstrate a lack of understanding of proper chemical handling techniques.

c. Regulatory Citation

29 CFR 1910.1200 for the HAZCOM Standard and 29 CFR 1910.1450 for the Chemical Hygiene Plan requirements.

#### 17.6.9 Storage of Flammable and Combustible Materials

- a. All NOAA personnel who use, store or handle flammable and combustible materials need to be trained in the dangers of these materials and the proper management techniques. Toward this end, Procedure 16 in the NOAA Occupational Health and Safety Manual creates a management program for these materials.

While there is no OSHA nor EPA requirement to provide a formal training course, best management practices require that employees who use, store or handle these materials be provided an awareness session to ensure they understand the proper management procedures to be used.

b. Retraining

None required.

c. Regulatory Citation

29 CFR 1910.106.

17.6.10 Response to Spills of Hazardous Materials

As part of the Superfund Amendments and Reauthorization Act of 1986 (SARA), OSHA was directed to establish programs to protect hazardous waste workers. The result of this effort has been termed the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standards.

a. Regulated Activity

When a hazardous substance is spilled, OSHA has determined the residues from the clean-up are hazardous wastes. Thus, employees responding to a hazardous substance spill are, according to OSHA, also hazardous waste workers who are to be protected. As a result, these workers must comply with the OSHA HAZWOPER rules.

It must be noted that the list of OSHA hazardous substances is much larger than that of either the EPA or DOT. Unlike the EPA or DOT, OSHA has deemed that DOT hazardous materials are also OSHA hazardous substances. Because of this, the regulations apply to an extensive list of materials.

For example, DOT-designated hazardous materials that are deemed OSHA hazardous substances include: gasoline, lighter fluid, paint, certain fertilizers and kerosene. A spill of any of these triggers the HAZWOPER regulations.

It must also be noted that OSHA defines an “emergency response corresponding to emergencies” as a “response effort by employees from outside the immediate release area by designated responders...to an occurrence which results, or is likely to result in an uncontrolled release of a hazardous substance.”

OSHA explains that responses to “individual releases” where the substance “can be absorbed, neutralized or otherwise controlled...by employees in the immediate release area or by maintenance personnel are not emergency responses.” Also, responses where “there is no potential health or safety hazard” are not emergency releases. Personnel responding to these situations would have received appropriate training under this HAZCOM Standard.

Under the OSHA rule, there are five (5) roles for emergency responders:

- (1) **First Responder - Awareness Level** - is the employee who releases or observes a release and whose role is only to notify “proper authorities.”
- (2) **First Responder - Operations Level** - contains a leak but does not perform an active role in stopping it.
- (3) **Hazardous Materials Technician** - active participant in the response. This individual “plugs or patches or otherwise stops the leak.”
- (4) **Hazardous Materials Specialist** - is an employee with specific knowledge about the released hazardous material who advises the response commander.
- (5) **Incident Commander** - is the employee who assumes control of the response effort.

At most NOAA facilities or work sites, NOAA employees will serve the role of First Responder - Awareness Level only. Their task is to report the emergency and ensure they and their co-workers are moved away from the danger area. The local response agency (usually the Fire Department) will provide all other response efforts.

Each of these responders requires different amounts and types of training.

(a) **First Responder - Awareness Level**

The employee who releases or observes a release and notifies “proper authorities” needs training which includes:

- ▶ OSHA HAZCOM Standard training
- ▶ use of the DOT Emergency Response Guidebook
- ▶ notification procedures
- ▶ awareness of their role in the response plan.

There is no minimum time specified for this training.

**Note:** It is highly suggested that this training be combined with the Hazard Communication (HAZCOM) training thus meeting two requirements simultaneously.

**(b) First Responder - Operations Level**

The employee who responds to a release and contains it or keeps it from spreading (but does not try to stop it) is given the title “First Responder - Operations Level.” These employees must receive 8-hours of instruction which includes:

- ▶ hazard and risk assessment
- ▶ personal protective equipment
- ▶ hazardous material terms
- ▶ control and containment techniques
- ▶ decontamination
- ▶ standard operating procedures.

**Note:** OSHA allows alternatives to this training. If the employer certifies that the employee “has sufficient experience to objectively demonstrate competency” in the areas identified as necessary for the First Responder Awareness Level, the training is unnecessary.

Should these employees be involved in the post incident clean-up, the employer must ensure the following additional requirements are also met:

§1910.38(a) which requires an emergency action plan and fire prevention plan

§1910.143 which details respiratory protection

§1910.1200 which details the hazard communication program

**(c) Hazardous Materials Technician**

The employee who “plugs or patches or otherwise stops a release of hazardous substance” from a container or tank is known as a “Hazardous Materials Technician.” These employees need 24-hours of training which includes the First Responder - Operations Level training plus:

- ▶ implementation of the contingency plan

- ▶ identification and classification of unknown materials
- ▶ personal protective equipment
- ▶ hazard and risk assessment
- ▶ containment techniques
- ▶ decontamination
- ▶ termination procedures
- ▶ chemical and toxicological terms.

(d) **Hazardous Materials Specialist**

The employee with more specific knowledge about the released material is deemed the “Hazardous Materials Specialist.” This employee may have responsibilities for liaison with regulatory agencies.

The 24-hour training for the Hazardous Materials Specialist includes the training provided for the HAZMAT Technician and:

- ▶ implementation of the local emergency response plan
- ▶ knowledge of the state response plan
- ▶ in-depth hazard and risk assessment
- ▶ development of site safety and control plan
- ▶ chemical, radiological and toxicological terminology.

(e) **On-Scene Incident Commander**

The employee who assumes control of the emergency response is called the “Incident Commander.” This individual needs 24-hours of training which includes the First Responder - Operations Level training as well as:

- ▶ employer’s incident command systems
- ▶ implementation of the employer’s plan
- ▶ risks and hazards of PPE
- ▶ implementation of the local response plan
- ▶ the State and Federal response
- ▶ decontamination.

**Note:** Although the Hazardous Materials Technician, Hazardous Materials Specialist and the Incident Commander all are required to complete a 24-hour training course, the three courses are significantly different in their scope and purpose.

b. Retraining

Retraining is required as follows:

For all Emergency Responders, retraining is required such that it is sufficient to maintain competency.

c. Regulatory Citation

29 CFR 1910.120(q).

17.6.11 Training on the Use of Personal Protective Equipment

On April 6, 1994, OSHA revised the regulations in 29 CFR 1910 Subpart I governing the use of personal protective equipment (PPE) in the workplace.

a. Regulated Activity

The general rules require each employer to assess if hazards are present or are likely to be present which would necessitate the use of PPE. The performance of this assessment must be verified by written certification. If PPE is required, the employer must select the appropriate equipment, communicate these decisions to each employee and properly fit each affected employee.

b. Required Training

The employer must provide training to ensure employees know:

- (1) when PPE is necessary
- (2) what PPE is necessary
- (3) how to properly don, doff, adjust and wear the PPE
- (4) the limitations of the PPE used
- (5) the proper care, maintenance, useful life and disposal of the PPE.

Before being allowed to perform work using PPE, each employee must demonstrate an understanding of the training provided and the ability to use the appropriate PPE properly.

Should the employer have reason to believe that an employee does not have an understanding of the reasons for using the PPE or the skills necessary to properly use it, retraining is required. Retraining can be required when there are changes in the workplace or the PPE employed or it becomes apparent the employee has not retained the required skills or understanding.

The employer must provide a written certification that verifies that each employee has received and understands the training.

c. Retraining and Recordkeeping

(1) Retraining Requirement:

Whenever an employer believes the employee does not have the understanding and skill required to properly use PPE.

(2) Records Required:

Written certificate from employer that contains the name of each employee trained, the date of training and the subjects presented.

d. Regulatory Citation

29 CFR 1910.132.

17.6.12 Use of an Underground Storage Tank (UST)

a. Regulated Activity

NOAA facilities that use an underground storage tank to store a petroleum product are required to ensure the tank and its related equipment are properly maintained so as to prevent and/or respond to releases to the environment. Although there is no formal requirement to provide employee training, in order to ensure the UST requirements are met. Best management practices mandate it be provided.

b. Required Training

NOAA employees who use and/or maintain the tank must undergo training to ensure they understand:

- (1) use and maintenance of the release detection system
- (2) response to releases
- (3) spill and overfill protection
- (4) use and maintenance of the corrosion protection system
- (5) inspection techniques.

c. Retraining

No formal requirement, however, an annual refresher is recommended.

d. Regulatory Citation

No specific training requirement, however, the UST standards are defined in 40 CFR Part 280.

17.6.13 Inspection, Testing and Operation of Aboveground Storage Tanks

Under the EPA rules for Oil Pollution Prevention and Response which were revised effective August 16, 2002, all aboveground tanks used for bulk storage of petroleum products must be subject to periodic testing to ensure they are not leaking.

For all aboveground tanks used by NOAA, this inspection requires the inspectors be trained in:

- what to look for when visually inspecting the outer shell and diking for signs of deterioration,
- how to inspect the interstitial space or test the interstitial monitoring device, if available,
- how to inspect all piping and connected equipment for leaks, and
- how and where to record the results.

There is no regulatory requirement for retraining but an annual review is recommended.

17.6.14 Training Requirements for Confined Space Entry

OSHA has identified four classifications of personnel that participate in confined space entries and requires specific training before any employee is allowed to perform their assigned role. Authorized entrants, outside attendants, authorizing individual and rescue personnel are each required to receive training specific to their role prior to engaging in confined space entries. Training on how to perform the necessary job requirements for each classification along with the hazards of confined space entry must be met.

a. Authorized Entrants

An authorized entrant is an individual who will enter the confined space area to perform work. Prior to entry, such a worker is required to receive training about hazards in confined space areas and how to perform their job duties. At a minimum, employers must provide training which includes:

- (1) **Hazard recognition** - entrants need training to identify hazards and recognize signs and symptoms of exposure and the consequences of being overexposed.
- (2) **Communication** - entrants must establish communication with an outside attendant and alert the attendant when a self-initiated evacuation is conducted.
- (3) **Protective equipment** - entrants must be trained on the types and proper use of PPE needed to enter confined space areas.
- (4) **Self-Rescue** - entrants must receive training on proper exit procedures upon an evacuation signal.

b. Outside Attendants

The outside attendant is an individual who is stationed outside the confined space area to monitor and direct authorized entrants in a work area during scheduled operations. Employers are responsible for providing training to attendants in the following areas:

- (1) **Head Count** - the attendant shall be trained in maintaining an accurate count of authorized entrants in the work area.
- (2) **Hazard Recognition** - attendants must be trained to identify hazards inside and outside the permit area and monitor changes in the work area.
- (3) **Communication** - attendants must be trained in proper measures to maintain effective and proper communication with entrants and outside individuals in the event that an evacuation is required as well as how to conduct an evacuation.
- (4) **Rescue** - attendants shall be trained in proper procedures to initiate a rescue while not entering the permit area.

c. Authorizing Individual

An authorizing individual is the person who makes the initial determination about allowing entry into the confined space area. The authorizing individual must be trained to conduct the following procedures:

- (1) determine that the entry permit contains all the required information.

- (2) determine that the necessary procedures and practices are in effect and the necessary equipment is in place before entrants proceed with work.
- (3) conduct monitoring at specified intervals to determine any changes in the work area which deviate from the initial permit.
- (4) remove unauthorized personnel from permit area.

d. Rescue Teams

If the employer chooses to use a rescue team from an outside source or in-plant operation, he must establish contact with such a team prior to initiating work. The employer must also alert the team to hazards in the confined space entry area. The rescue team must also have adequate training in proper rescue procedures and equipment use and must simulate a rescue operation once in a twelve month period.

e. Retraining and Recordkeeping

- (1) Retraining Required - as necessary to introduce new or revised procedures or when the employer believes there are inadequacies in the employee's knowledge.
- (2) Records Required - Employer certification containing the employee's name, signature or initials of the trainers(s) and the date of training.

f. Regulatory Citation

29 CFR 1910.146.

17.6.15 DOT Hazardous Material Employee Training

The DOT requires each "hazmat employer" to train their "hazmat employees." According to the DOT, a "hazmat employee" is a person who "in the course of employment, affects hazardous materials safety." The term includes persons who:

- (1) load, unload or handle hazardous materials
- (2) test, recondition, repair, modify, mark or otherwise represent containers, drums or packages as qualified for use for hazardous materials
- (3) prepare hazardous materials for transportation
- (4) are responsible for safety of hazardous materials transportation
- (5) operates a vehicle used to transport hazardous materials.

NOAA personnel typically perform the tasks described in items (1), (3) and (4) and hence, the DOT requires them to receive information to do these tasks correctly.

a. Required Training

The DOT-required training consists of four categories. The first three apply to all modes of transportation while the fourth applies only to highway transportation and motor vehicle operators.

The employer must certify that each employee received the training and was tested on their appropriate areas of responsibility.

New employees, or those who change jobs, must receive their training within 90-days of employment or change.

The four categories are:

(1) General Awareness/Familiarization Training

The intent of the training is to provide recognition of hazardous materials through familiarization with the DOT rules. This training includes instruction in the DOT hazardous material communication system including the DOT hazard classes and the marking, labeling and placarding requirements. This training is required by all employees who are involved with DOT hazardous materials in any way. It provides the basis for understanding the DOT system.

(2) Function - Specific Training

This is the job-specific training concerning the DOT requirements that each employee must receive in order to properly perform their duties. By nature, this is site- and job-specific and includes NOAA personnel who handle, load, unload, package or even sign the shipping papers or manifest.

(3) Safety Training

This category includes:

- (a) emergency response training
- (b) personnel protective equipment and measures to protect employees from associated hazards
- (c) methods and procedures to prevent accidents.

This training is to ensure personnel understand what to do in an emergency including how to respond to accidents involving the DOT HAZMAT they handle.

(4) Driver Training

This training is only required of all drivers of motor vehicles used to transport commercial quantities of hazardous materials. Because NOAA employees do not transport commercial quantities of DOT Hazardous Materials, it is unlikely that this training will be required. It is included here for reference only.

For drivers, the training includes:

- (a) pretrip safety inspection
- (b) use of vehicle controls and equipment including emergency equipment
- (c) operation of the vehicle
- (d) procedures to navigate tunnels, bridges and railroad crossings
- (e) requirements for attendance of vehicles, parking, smoking, routing, incident reporting
- (f) loading and unloading including compatibility, handling and securing the load.

Drivers who operate cargo tanks or a portable tank over 1,000-gallons in capacity must have the following specialized training:

- (a) operation of emergency controls on the tank
- (b) special vehicle handling characteristics
- (c) loading and unloading
- (d) properties and hazards of materials transportation
- (e) retesting and inspection requirements.

(5) Retraining and Recordkeeping

- (a) Retraining Required: recurrent every three (3) years.
- (b) Records Required:
  - (1) certification by employer
  - (2) training record which includes:
    - ▶ the employee name
    - ▶ the most recent training completion date

- ▶ a description of the training materials or the location in which the copy is stored
- ▶ the name and address of the trainer
- ▶ the certification of training and testing.

Records must be kept during the employment term plus 90-days after for each employee that completes the training.

(6) Regulatory Citation

49 CFR 172 Subpart H.

## 17.7 Responsibilities

### 17.7.1 NOAA Headquarters

- a. The NOAA Environmental/Safety Office shall perform an annual assessment of the NOAA facilities to ensure that the facilities are in compliance with this section.
- b. The NOAA Environmental/Safety Office shall periodically perform an assessment of the regional headquarters and field offices to ensure compliance with this section. The frequency of these regional and field office assessments shall be determined by the NOAA Headquarters Environmental/Safety Office.
- c. Requests for clarification concerning this section shall be directed to the NOAA Headquarters Environmental/Safety Office.

### 17.7.2 Regional or Operating Unit Environmental/Safety Coordinator

- a. Shall monitor and coordinate to promote compliance with the requirements of this procedure for the regional headquarters and field offices or operating units.
- b. Shall identify training opportunities to field offices when available and assist in implementation.
- c. Shall ensure that appropriate training program procedures are developed at regional headquarters or operating unit facilities.
- d. Shall perform an annual assessment of the regional headquarters facilities or operating unit to monitor and promote compliance with the requirements of this section.

- e. Shall perform assessments or designate personnel to perform assessments of all field offices to monitor and promote compliance with the requirements of the section.

17.7.3 Designated Responsible Official

- a. Shall have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NOAA facility.
- b. Shall ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section
- c. Shall ensure that training programs are developed at NOAA field offices and implemented for environmental and worker safety programs.
- d. Shall review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review shall be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.
- e. Shall ensure that all NOAA facility/work site personnel have received the training required to properly perform their duties in accord with environmental/worker health and safety requirements.

17.7.4 Facility Environmental Coordinator or Environmental and/or Safety Focal Point or Designated Person

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- a. Shall ensure any tasks delegated to them by the Designated Responsible Official are implemented in accordance with the requirements of this section.
- b. Shall determine training requirements for facility/workstation personnel.
- c. Shall implement required training.
- d. Shall maintain training records.

17.7.5 Employees

- a. Individual employees affected by this section are required to participate in training required by this section and adopt the lessons learned into performance of their jobs.

## 17.8 References

### Incorporated References

The following list of references is incorporated as a whole or in part into this section. These references can provide additional explanation or guidance for the implementation of this section.

#### 17.7.1 U.S. Department of Labor Occupational Safety and Health Agency

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|----|--|---|
| a. | 29 CFR 1910.106  | “Flammable and combustible liquids”   |
| b. | 29 CFR 1910.120<br>29 CFR 1910.120(p)<br>29 CFR 1910.120(p)(8)<br>29 CFR 1910.120(p)(8)(iii) | “Hazardous waste operations and emergency response”<br>Certain operations conducted under the Resource Conservation and Recovery Act of 1976 (RCRA)<br>Emergency Response Program<br>Training |
|    | 29 CFR 1910.120(q)   | “Emergency response to hazardous substance releases”  |
| c. | 29 CFR 1910.132  | “Personal Protective Equipment”   |
| d. | 29 CFR 1910.146  | “Permit required confined space”  |
| e. | 29 CFR 1910.1200   | “Hazard Communication Standard”   |
| f. | 29 CFR 1926.62<br>29 CFR 1926.62(1)<br>29 CFR 1926.62(2)                                     | “Lead”<br>Employee information and training<br>Training Program   |
| g. | 29 CFR 1926.1101<br>29 CFR 1926.1101(k)<br>29 CFR 1926.1101(k)(9)                            | “Asbestos”<br>Communication of hazards<br>Employee information and training   |

#### 17.8.2 U.S. Department of Transportation

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| a. | 49 CFR 172 Subpart H - “Training” |
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**17.8.3 U.S. Environmental Protection Agency**

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| a. | 40 CFR 82<br>40 CFR 82.40<br>40 CFR 82.161                      | “Protection of Stratospheric Ozone”<br>Technician training and certification<br>Technician certification   |
| b. | 40 CFR 112.7<br><br>40 CFR 112.7(e)(10)                         | “Guidelines for the Preparation and Implementation of a Spill Prevention Control and Countermeasure Plan”<br>Personnel, training and spill prevention procedures |
| c. | 40 CFR 265<br><br>40 CFR 265.16                                 | “Interim Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities”<br>Personnel training                                 |
| d. | 40 CFR 262<br>40 CFR 262.34                                     | “Generator Standards”<br>Accumulation Time   |
| e. | 40 CFR 280  | “Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (USTs)”  |
| f. | 40 CFR 475<br><br>40 CFR 475.107<br>40 CFR 475.220-239          | “Lead-Based Paint Poisoning Prevention in Certain Residential Structures”<br>Disclosure requirements for sellers and lessors<br>Lead-Based Paint Activities      |
| g. | 40 CFR 763 Subpart E<br>40 CFR 763.92(a)<br>40 CFR 763.92(a)(2) | “Asbestos-Containing Materials in Schools”<br>Training and periodic surveillance<br>Training for custodial staff   |
| h. | Appendix C - Asbestos Model Accreditation Plan                  |  |